

a dq coordinate system rotating in synchronization with the rotation of the motor; and a higher harmonic current control device that implements feedback control on a higher harmonic component of the motor current in a dhqh coordinate system rotating with a frequency which is an integral multiple of a frequency of the fundamental wave component of the motor current. The apparatus further includes a command value calculating device that calculates an AC voltage command value by adding an output from the fundamental wave current control device to an output from the higher harmonic current control device and outputs the AC voltage command value to a power conversion device that generates a 3-phase AC voltage corresponding to the AC voltage command value. A higher harmonic component eliminating device is provided to eliminate the higher harmonic component of the motor current **from** a control deviation between (1) a motor current feedback value and (2) a fundamental wave current command value in the fundamental wave current control device.

Neither Kitajima nor Ho discloses the features of claim 1. As the Office Action correctly acknowledged, Kitajima utilizes a conventional control approach that eliminates a higher harmonic component contained in the motor current, without providing any specific teaching of eliminating a higher harmonic component from a control deviation between (1) a motor current feedback value and (2) a fundamental wave current command value, as described in claim 1.

Ho does not alleviate the deficiencies of Kitajima. According to Ho, harmonic current regulator 5 eliminates a harmonic torque by eliminating harmonic currents. However, contrary to the assertion of the Office Action, the harmonic current regulator 5 is different from the higher harmonic component eliminating device as described in claim 1 because the harmonic current regulator 5 extracts harmonic current components directly from the feedback current (see column 3, lines 26-31). There is no specific teaching or disclosure in Ho to eliminate a higher harmonic

component from a control **deviation** between (1) a motor current feedback value **and** (2) a fundamental wave current command value, as described in claim 1.

Therefore, Kitajima and Ho, even if combined, fail to disclose “a higher harmonic component eliminating device is provided to eliminate the higher harmonic component of the motor current **from** a control deviation between a motor current feedback value and a fundamental wave current command value in the fundamental wave current control device,” as recited in claim 1. Since the combination of Kitajima and Ho fails to disclose every limitation of claim 1, Kitajima and Ho cannot support a prima facie case of obviousness. The obviousness rejection is untenable and should be withdrawn. Favorable reconsideration of claim 1 is respectfully requested.

Claim 6 depends from claim 1 and incorporates every limitation thereof. Since claim 1 is patentable over Kitajima and Ho, claim 6 also is patentable by virtue of its dependency from claim 1 as well as based on its own merits. Favorable reconsideration of claim 6 is respectfully requested.

Independent claims 8 and 9 include descriptions related to eliminating higher harmonic components of a motor current from a control deviation **between** a fundamental wave current command value and a motor current feedback value in a fundamental wave current control circuit or fundamental wave current control means. As discussed earlier relative to claim 1, neither Kitajima nor Ho discloses this feature. Therefore, claims 8 and 9 also are patentable over the combination of Kitajima and Ho for at least the same reasons as for claim 1. Favorable reconsideration of claims 8 and 9 is respectfully requested.

Claims 2-5 and 7, directly or indirectly, depend on claim 1 and were objected to for depending on a purportedly rejected claim. However, as discussed above, claim 1, the base

claim on which claims 2-5 and 7 depend, is patentable. Accordingly, claims 2-5 and 7 are in appropriate form.

Conclusions

For the reasons given above, Applicants believe that this application is in condition for allowance, and request that the Examiner give the application favorable reconsideration and permit it to issue as a patent. If the Examiner believes that the application can be put in even better condition for allowance, the Examiner is invited to contact Applicants' representatives listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Wei-Chen Nicholas Chen
Registration No. 56,665

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 WC:apr
Facsimile: 202.756.8087
Date: August 17, 2005

**Please recognize our Customer No. 20277
as our correspondence address.**